

삼성전자 종합기술원 R&D 박사 및 경력 모집

- ◆ 모집기간 : 2012년 9월 28일 ~ 2012년 10월 15일 23시 30분
- ◆ 지원자격 : 관련전공 박사학위자 또는 석사 이후 경력 6년 이상자
(2013년 2월 박사학위 취득예정 포함)
※ 군필 또는 면제자로 해외여행에 결격사유가 없는 자
- ◆ 모집분야 : R&D (연구개발)
 - ① **Future IT** : Medical Imaging, 3D Image, Intelligence Computing, Brain IT 등
 - ② **Material & Device** : 3D Display, Opto-electronics, 그래핀 등
 - ③ **소재기술** : 유무기/Film, 재료/소자 분석 등
 - ④ **Bio** : Bio소재, 바이오신약 등
 - ⑤ **Energy** : 차세대 Battery, Energy Harvesting 등
 - ⑥ **모델링/시뮬레이션/분석** ※ 상세모집분야 별첨 참조
- ◆ 모집인원 : 00명
- ◆ 근무지역 : 삼성전자 종합기술원 (경기도 기흥 소재)
- ◆ 지원방법 : 온라인 입사지원
 - 삼성커리어스 접속(www.samsungcareers.com) → 경력사원채용공고 → [종합기술원]박사 및 경력사원 채용공고 → 공고 하단 '지원서 작성하기' 버튼 클릭 후 작성함 (※E-mail 입사지원은 받지 않습니다.)
- ◆ 전형절차
 - 1차 : 서류전형
 - 2차 : 기술면접 및 세미나
 - 3차 : 임원면접
 - 4차 : 건강검진
- ◆ 제출서류 : 이력서 (※첨부 이력서 양식으로 작성요망)
- ◆ 관련문의 : 종합기술원 인사팀(jobinfo@samsung.com / 031-280-8039)

Job Opportunity

Recruiting	Main tasks
① Future IT	<ul style="list-style-type: none"> <input type="checkbox"/> 3D Image Sensing and Image Processing <ul style="list-style-type: none"> - 3D Image Sensing <ul style="list-style-type: none"> · CMOS Image Sensor, CMOS Circuit Design & Development, VLSI Design & Layout, Analog Circuit Design, Sensor Signal Processing & Sensor Calibration - 3D Image Processing & Applications <ul style="list-style-type: none"> · 3D Depth Reconstruction & Processing, Stereo/Multi-view 3D Reconstruction, Synthesis & Rendering, Pattern classification/Machine learning, etc. - Light Field, Computer Generated Hologram Processing <ul style="list-style-type: none"> · 3D Object Modeling & Reconstruction, Light Field Capturing/Synthesis/Reconstruction, Computational Photography - Human Motion Recognition <ul style="list-style-type: none"> · Pose Estimation (Full-body, Hands), 3D Feature Extraction & Recognition, Big Data-driven Machine Learning, 3D Vision Processing, 3D Modeling and Motion Graphics, Strong coding Skills in C/C++ - 3D Video Coding <ul style="list-style-type: none"> · Design and develop multi-view video and depth compression algorithms and participate in standardization of video coding · Hands on experiences on video coding standards such as H.264/AVC, MVC. Proficiency in C/C++ required <input type="checkbox"/> Medical Imaging and Systems <ul style="list-style-type: none"> - X-ray / X-ray CT <ul style="list-style-type: none"> · Detector: Photoconductor material, readout circuit, calibration, detector physics modeling & simulation, validation · X-ray Imaging System: Imaging architecture, system integration, image processing · CT Module and System: Detector, DAS, gantry/slip ring, system integration/optimization, modeling & simulation CT imaging · CT Imaging, reconstruction algorithm - HIFU System design and signal processing research <ul style="list-style-type: none"> · HIFU System Arch.& Nonlinear Acoustics, HIFU Transducer Design · Beam Focusing Algorithm Design and Implementation - Ultrasound Imaging and System <ul style="list-style-type: none"> · 3D Imaging, Beamforming(High Resolution, GPU, etc.), US Image Pre-Post Processing,(3D) Thermometry and elastography Imaging/monitoring, Thermal Strain - MRI Imaging Technology Development <ul style="list-style-type: none"> · Tx & Rx RF Coil Design & Fabrication · Pulse Sequence Design / Development

Recruiting	Main tasks
	<ul style="list-style-type: none"> · Image Reconstruction and Processing · MRI Simulation (Pulse Sequence, RF Field, etc.) · New Technique Development - PET System and Imaging Research <ul style="list-style-type: none"> · PET System Architecture · PET Detector and Circuit · Image Reconstruction and Correction
<p>① Future IT</p>	<div style="border-bottom: 1px solid black; padding-bottom: 10px;"> <p><input type="checkbox"/> Haptic Sensor System</p> <ul style="list-style-type: none"> - Flexible tactile sensor <ul style="list-style-type: none"> · Flexible tactile sensor design using microfabrication techniques, Front-end analog circuit design (PCB level), Sensor signal and noise measurement using data acquisition system - Force sensor <ul style="list-style-type: none"> · Force sensor design for haptic device or robot system using fiber optics(FBG), mechanical design and simulation, system integration using C language </div> <div style="border-bottom: 1px solid black; padding-bottom: 10px;"> <p><input type="checkbox"/> Media Computing System</p> <ul style="list-style-type: none"> - Audio/Video <ul style="list-style-type: none"> · A/V codec and its implementation on embedded processor · 3D image/ultrasound medical image and its implementation - Intelligent image processing <ul style="list-style-type: none"> · Camera ISP(image signal processing), Computational Photography, Object/Gesture recognition, Robot vision & embedded vision processing - 3D Graphics <ul style="list-style-type: none"> · Design expert: Computer graphics(Rasterization, programmable Shader, Raytracing, Photon-mapping, Global illumination, Physics-based animation, etc.), low power/ high performance GPU design, graphics application engine · Direct3D, OpenGL, OpenCL, GLSL, HLSL, Verilog, C/C++, FPGA/ASIC/SoCs design/implementation/simulation/verification · Augmented/Mixed Reality, Feature Detection, Markerless registration, Composition - System SW <ul style="list-style-type: none"> · Heterogeneous multicore OS · Parallel programming language for CPU+GPU · Power/Performance estimation and prediction for CPU+GPU </div> <div style="padding-bottom: 10px;"> <p><input type="checkbox"/> RF & Power Conversion Technology</p> <ul style="list-style-type: none"> - Passive / Active RF device, circuit, and systems - Simulation & analytical analysis of circuits & electromagnetics - RFIC design & measurement - Power electronics devices & modules (H/W, S/W) <ul style="list-style-type: none"> · High-power inverter/converter topology, circuit & control - Power management / conversion technology and systems - Design and prototyping of control and communication system </div>

Recruiting	Main tasks
<p>① Future IT</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Many-core Computing Architecture <ul style="list-style-type: none"> - Processor Core Architecture and HW Implementation <ul style="list-style-type: none"> · Reconfigurable processor for multimedia/radio processing · 3D graphics core architecture supporting multi-threading · Highly parallel processor architecture - Many-core Processor Architecture and Implementation <ul style="list-style-type: none"> · Many-core processor supporting efficient synchronization mechanism · Interconnect architecture including Network-on-Chip · Memory architecture including hierarchy and coherency protocol · Data streaming architecture and HW task/thread scheduling · Many-core architecture supporting heterogeneous cores such as CPU+GPU · Heterogeneous memory architecture supporting efficient data transfer - Many-core Programming Model <ul style="list-style-type: none"> · Industry standard many-core programming model such as OpenCL · Core architecture specific programming model extension · 3D Graphics supporting programming model such as OpenGL - Software Development Tools <ul style="list-style-type: none"> · Compilers for single/many-core architecture supporting various parallelism · Simulators for architecture modeling and design space exploration · Profiler for analysis of application/architecture performance · Debuggers for increasing SW productivity - Processor Verification Framework <ul style="list-style-type: none"> · Single/Many-core processor verification tools such as random vector generator · Integrated verification framework from application to HW implementation · Automation and parallelization of verification process <input type="checkbox"/> Future Networking & Security <ul style="list-style-type: none"> - Wireless Sensor Network (Body Area Network/Personal Area Network) <ul style="list-style-type: none"> · Low power RF/Analog circuit design · Low power digital MODEM algorithm design · Real-time embedded system design · Wireless sensor platform design - Information-Centric Networking architecture & Prototyping <ul style="list-style-type: none"> · Network protocol design and simulation · Network, content, device security algorithm design · Network virtualization and SDN(Software Defined Networking) · Mobility architecture and modeling - Wireless Communication <ul style="list-style-type: none"> · Wireless network information theory · Interference Management · Channel coding · Multi-hop resource management · Physical-layer security

Recruiting	Main tasks
<p>① Future IT</p>	<p><input type="checkbox"/> Intelligent Computing</p> <ul style="list-style-type: none"> - Computer-aided Diagnosis <ul style="list-style-type: none"> · Image Segmentation, Image Registration, Neuro Image Analysis 2D/3D Image Feature Extraction - Data Mining & Large-scale Data Management <ul style="list-style-type: none"> · Data Mining Theory, High-dimensional Data Mining, Temporal Data Mining, Clinical Data Mining, Sensor data mining · Data Indexing, Web Search, Complex Data Management - Computational Genomics(Epigenomics background is welcomed) - Context-Aware Computing <ul style="list-style-type: none"> · Ontology-Based Context-Awareness, Ontology Modeling & Processing, Semantic Reasoning - Machine Learning <ul style="list-style-type: none"> · Large-Scale Data-Driven Learning, Statistical Relational Learning, Bayesian Analysis and Graphical Models, Event Detection and Knowledge Discovery, Pattern Recognition, Natural Language Processing, Information Retrieval, Statistical Relational Reasoning - Affective Computing <ul style="list-style-type: none"> · Multi-modal Emotion Recognition, Novel Human-Computer Interaction utilizing Human Emotion, Mood Detection, Stress Monitoring, User Modeling & Understanding - Personal Informatics <ul style="list-style-type: none"> · Human Activity Recognition, Multi-modal Situation Recognition, Analysis of Activities of Daily Living(ADL),
	<p><input type="checkbox"/> Distributed Storage Architecture</p> <ul style="list-style-type: none"> - Large-Scale Distributed File System <ul style="list-style-type: none"> · Distributed node/data management, Fault-tolerance - NoSQL Distributed Storage <ul style="list-style-type: none"> · Tabular store, Key-value store, Graph store, Object store - Distributed System Modeling & Simulation - NAND-Optimal System Software <ul style="list-style-type: none"> · NAND file system, Caching S/W, I/O virtualization
	<p><input type="checkbox"/> Green Communication and Networks</p> <ul style="list-style-type: none"> - Green Networks <ul style="list-style-type: none"> · Energy optimized on/off base station operation technology · Green network architecture design (signaling & data network separation approach) - Green Radio <ul style="list-style-type: none"> · Energy-efficient MIMO technology for multiple antennas system & compact antenna module technology

Recruiting	Main tasks
<p>① Future IT</p>	<p><input type="checkbox"/> Brain IT</p> <ul style="list-style-type: none"> - Neuromorphic System research <ul style="list-style-type: none"> · Neural simulator developing and Capable of emulation using GPU · Spike code-based inference theory and Computer Science, Probability/Statistics Applied Physics and related fields · VLSI chip design(neuromorphic chip, analog chip design) · Sensory processing using spiking neural network (Visual/auditory pattern recognition) · Computational neuroscience in learning (Memory/Inference/Decision making) · Actor-critic model(POMDP, TD-lambda learning, etc) - Brain and cognitive engineering <ul style="list-style-type: none"> · Non-invasive brain-computer interface/Mind reading · Cognitive modeling and simulation/Connectome/Brain map · Non-contact bio sensor · Transcranial electromagnetic stimulation
	<p><input type="checkbox"/> 3D Modeling in Medical Science</p> <ul style="list-style-type: none"> - Single/Multi-Modality Medical Image Segmentation/Registration (CT, MRI, US, etc) - 3D Modeling and Visualization - Solid, Fluid, and Bio-Mechanics Modeling and Simulation - Systems Biology, Data Acquisition/Analysis for Bio-Engineering
	<p><input type="checkbox"/> Bio-medical Engineering</p> <ul style="list-style-type: none"> - Bio signal sensing & processing <ul style="list-style-type: none"> · Biomedical signal acquisition · Biomedical signal processing(Major: mathematics) · Physiological modeling · Design of AFE and/or digital logic dedicated for biomedical signal - Biomedical Optical Imaging Research <ul style="list-style-type: none"> · Functional Optical Coherence Tomography(OCT) system architecture and signal Processing · Tissue vs. Light interaction modeling · OCT Image Enhancement Algorithm
	<p><input type="checkbox"/> Medical Robot</p> <ul style="list-style-type: none"> - Mechatronics <ul style="list-style-type: none"> · New Actuator (Shape Memory, Piezo, Artificial Muscle) · Bio-Mimetic System Design & Control · Ergonomic, Bio-Compatible Design - Optical System <ul style="list-style-type: none"> · High-Resolution Stereo Endoscope

Recruiting	Main tasks
<p>② Material & Device</p>	<p><input type="checkbox"/> Opto-electronics</p> <ul style="list-style-type: none"> - III-V compound semiconductor optical devices - Device specialists (VCSEL, DFB Laser diode, waveguide, photodetector, modulator and Mux/DeMux) - III-V material Thin film, optical devices , device fabrication and Measuring high-speed communications system - Process, material, device, simulation for GaN LED - Oxide sensor, device, material, physics, simulation - Optical system/interconnect/modulator - Photonic Materials & Device <ul style="list-style-type: none"> : Energy Convertor, Photonic Crystal for Display device Photonic Crystal synthesis/device/physics/simulation - Plasmonic Materials & Device <ul style="list-style-type: none"> : Sensor, detector, Laser using Plasmonic - Optic design for OCT(Optical Coherence Tomography) - Optic design for Microscope for medical - High Speed Optoelectronics Circuit Design
	<p><input type="checkbox"/> Holography 3D Display</p> <ul style="list-style-type: none"> - Holography, Optics(Nano-optical devices) - 3D Display optics, optical devices process and the simulation - Optical Design and Fabrication - Material/Optic/Device for 3D or 3D Holography - Simulation or modeling for 3D/Holography - Optical modulator/device - Material/device for 3D recording(3D image)
	<p><input type="checkbox"/> Nano-scale High-performance Devices</p> <ul style="list-style-type: none"> - Quantum(Ballistic) transport, Spin transport, Non-equilibrium Green Function calculation - Band to band tunneling in III-V Transistor - III-V, Ge epitaxial growth - Design based on modeling & simulation of high performance devices such as 3D FET, HEMT(High Electron Mobility Transistor), TFET(Tunneling FET) - Nanoimprint Process/Stamp professionals - CMOS design professionals - LED/Organic image sensor material and device production - Nano Crossbar Electronics(such as logic device) - Device, material, physics, simulation for Power device - Flexible/Printed Electronics(Material/Device/Physics) - Simulation or modeling for organic material

Recruiting	Main tasks
	<ul style="list-style-type: none"> - Nonvolatile transistor, materials & device : Ferroelectric, Multiferroics, Heterostructure - Stamp transfer printing process/Interface engineering of thin film - Solid state physics calculation
② Material & Device	<ul style="list-style-type: none"> <input type="checkbox"/> Micro Actuator & Sensors <ul style="list-style-type: none"> - MEMS device design and fabrication - MEMS device evaluation and control - MEMS packaging design, process and evaluation <input type="checkbox"/> Medical Device <ul style="list-style-type: none"> - Surgical robot system <ul style="list-style-type: none"> · Surgical Robot Control & Design (teleoperation, force feedback control, surgical instrument design, etc) · Image guided surgery and intervention · Nano imaging and therapeutic system - Ultrasound-based medical devices <ul style="list-style-type: none"> · Functional imaging - Medical optics design & fabrication <input type="checkbox"/> Medical Optics & Imaging <ul style="list-style-type: none"> - Optical system/device design & fabrication <input type="checkbox"/> Graphene Research <ul style="list-style-type: none"> - Nano electronic device fabrications and process integrations - Graphene and other 2D material growth - Material and device simulations <input type="checkbox"/> Electro Luminance Device <ul style="list-style-type: none"> - molecular design, modeling, Organic/polymer synthesis - Device fabrication, device evaluation and Process - Device Physics
③ Materials Technology (inorganic/organic/Film/OLED)	<ul style="list-style-type: none"> <input type="checkbox"/> Organic Chemistry, Physical Organic Chemistry, Chemical Engineering <ul style="list-style-type: none"> - Polymerization, characterization <ul style="list-style-type: none"> · reaction kinetics, thermo-mechanical property control, electronic property control <input type="checkbox"/> Development of Film Material for Display <ul style="list-style-type: none"> - Optical Polymer Synthesis - Polymer Properties, Coating, film processing and optical Characterization - Development Experience preferred polymer materials for optical

Recruiting	Main tasks
<p>③</p> <p>Materials Technology (inorganic/organic/Film/OLED)</p>	<p><input type="checkbox"/> Composition of Inorganic Materials Design and Synthesis</p> <ul style="list-style-type: none"> - Solid state physics, intermetallic compound, Energy, material, magnetic material, DOS engineering, nano-structure - Development & fabrication of metal alloy powder. <ul style="list-style-type: none"> · Gas-atomizer specialist · Design of induction melting system in vacuum - Development of hard and soft magnetic materials <ul style="list-style-type: none"> · Synthesis & analysis of new intermetallic bulk materials · Development of rare earth free permanent magnets · Development of soft magnetic composite materials - New materials for hydrogen separation membrane <ul style="list-style-type: none"> · Material development & analysis for hydrogen permeable membrane. · Metallurgy processing (alloying, foil process, annealing) <hr/> <p><input type="checkbox"/> Surface Engineering</p> <ul style="list-style-type: none"> - Surface Patterning Technology <ul style="list-style-type: none"> · Nano Imprinting Lithography, Molecular Transfer Lithography · Patternable Materials - Surface Energy Engineering <ul style="list-style-type: none"> · Nano Structure, Interface Chemistry, Fluoro Material - Surface Morphology Engineering <ul style="list-style-type: none"> · Dispersion, Rheology, Coupling Chemistry - Wire Grid Polarizer, Soft Electronics
<p>④</p> <p>Bio</p>	<p><input type="checkbox"/> Therapeutic Antibodies</p> <ul style="list-style-type: none"> - Mammalian expression vector & host cell line - Antibody-drug conjugates (ADC) - Therapeutic antibody targeting autoimmune diseases or cancer - Antibody engineering - Non-antibody protein scaffolds - Regulatory affairs <hr/> <p><input type="checkbox"/> Biomaterials and Bio-based Products</p> <ul style="list-style-type: none"> - Systems biology <ul style="list-style-type: none"> · Omics (Genomics/Proteomics/Metabolomics/Bioinformatics) · in silico modeling - Metabolic Engineering (Molecular Biology/Microbiology) <ul style="list-style-type: none"> · Strain development - Process engineering <ul style="list-style-type: none"> · Fermentation process · Chemical conversion process

Recruiting	Main tasks
<p>④ Bio</p>	<p><input type="checkbox"/> Biotherapeutics</p> <ul style="list-style-type: none"> - Cancer biology <ul style="list-style-type: none"> · strong background in mechanistic analysis of cancer signaling pathway · excellent technical expertise in molecular and cellular biology · cancer stem cell biology · genomic/transcriptomic profiling experience using patient samples · To Develop, qualify/validate and troubleshoot in vitro/in vivo bioassays. - Antibody drug conjugate <ul style="list-style-type: none"> · Antibody-drug conjugates (ADC) general (Design, synthesis, process, etc.) · Bioconjugate chemistry(Biomolecule bioconjugations) · Medicinal chemistry(Anticancer drug design/synthesis/modification, etc) · Drug delivery system(Focused on drug conjugation) - Mathematical modeling/Quantitative systems biology <ul style="list-style-type: none"> · mechanism-based PK/PD modeling · mathematical modeling of biological networks/pathways/disease mechanisms/drug responses · ODE-based mathematical modeling with statistical analysis <hr/> <p><input type="checkbox"/> Drug Delivery and Medical Engineering</p> <ul style="list-style-type: none"> - Biocompatible materials engineering <ul style="list-style-type: none"> · Drug carrier design and preparation · Conjugation chemistry and purification · Biocompatible surface engineering - In vivo evaluation and analysis <ul style="list-style-type: none"> · Animal test design, PK/PD, toxicity, efficacy analysis - Diagnosis/therapy integration <ul style="list-style-type: none"> · Molecular imaging, image guided therapy
<p>⑤ Energy</p>	<p><input type="checkbox"/> Battery</p> <ul style="list-style-type: none"> - Adv.Li-ion / Post LIB (Li-Air etc)/New Energy Storage <ul style="list-style-type: none"> · Inorganic, nanocomposite and metal alloy for energy storage, Solid-state chemistry, Computational solid-state physics · Organic/polymer design & synthesis, Ionic liquid, MD simulation · Electrochemical Analysis and Modeling · Analysis of Reaction Mechanism and Thermal/Fluidic Behavior at the Electrode or Cell Level · Design/Evaluation of BMS(Battery Management System) or PCS(Power Control System)

Recruiting	Main tasks
<p style="text-align: center;">⑤ Energy</p>	<p><input type="checkbox"/> Fuel Cell</p> <ul style="list-style-type: none"> - Solid Oxide Fuel Cell <ul style="list-style-type: none"> · Electrode & electrolyte material design and synthesis · Interconnecter and Sealant material and cell manufacturing process · Cell design, manufacture & evaluation · SOFC stack design, manufacture & evaluation · Analysis of Electrochemical Reaction, Thermal/Fluidic Behavior and thermal stress at the Electrode, Cell and Stack Level.
	<p><input type="checkbox"/> Environment</p> <ul style="list-style-type: none"> - membranes, electrochemistry, sensors, catalysts, adsorbents <ul style="list-style-type: none"> · Membrane technology for water treatment and gas separation, · Organic / Inorganic Materials Design and Synthesis · Water/air quality monitoring sensor · CO2 capture and storage, application, CO2/O2 Separation · CO2 conversion and related catalysts / processes · Synthesis and advanced analysis for heterogeneous catalyst
	<p><input type="checkbox"/> Energy Harvesting</p> <ul style="list-style-type: none"> - Based on mechanical engineering, design and simulation mechanical structure for vibration energy harvesting <ul style="list-style-type: none"> · Mechanical Impedance/Frequency Matching, wide-bandwidth - Based on power electronics, design and simulation circuit(SOC) <ul style="list-style-type: none"> · Low power rectification, Control DC/DC convertor for maximum power tracking, wake-up circuit for energy saving - Based on material engineering, piezo material & transducer design and evaluation <ul style="list-style-type: none"> · Lead/Lead-free piezo material/Thick & Thin film - Nano/flexible piezoelectric materials and device structure for vibration energy harvesting <ul style="list-style-type: none"> · Nano-organic/inorganic hybrid, piezoelectric/electrostatic device design, processing and harvesting system
	<p><input type="checkbox"/> Hybrid Energy System</p> <ul style="list-style-type: none"> - High Power & High Efficiency Converter, Inverter & Control circuit design - Multi-Input Renewable Energy Management Algorithm design - Smart Grid Power Management and Control - Design/Evaluation of hybrid renewable/alternative energy system for electric power generation <ul style="list-style-type: none"> · Hybrid system of fuel cell, battery, solar cell, wind etc. · High efficient energy system(micro turbine, heat pump etc.) · HILLS-based energy & power system integration and test - Numerical Modeling and simulation of (hybrid) energy system <ul style="list-style-type: none"> · Energy conversion and storage system modeling & analysis · (Conventional) Thermal/Fluid device modeling and simulation

Recruiting	Main tasks
	<ul style="list-style-type: none"> · EV, HEV, FCV (powertrain) Modeling and simulation
<p style="text-align: center;">⑥</p> <p>Computational Science (Modeling/ Simulation)</p>	<p><input type="checkbox"/> Physical Modeling & Simulations</p> <ul style="list-style-type: none"> - Computational/theoretical modeling and analysis of materials properties · First-principles (Ab-initio), molecular dynamics, stochastic (Monte Carlo), meso-scale simulation research · Multi-scale/multi-physics modeling/simulation · Transport (electronic/thermal/etc.), optical properties, alloy systems <hr/> <p><input type="checkbox"/> Theories & Simulations for Systems and Devices</p> <ul style="list-style-type: none"> - Design/simulation of micro-devices and their properties - Computation-based and theoretical research in condensed matter/optical/statistical physics and chemistry - Learning/modeling/optimization/algorithms of data-centric systems and related computer science/mathematical research
<p style="text-align: center;">⑥</p> <p>Analytical Science (Material & Device Analysis)</p>	<p><input type="checkbox"/> Physics-based XPS/UPS, STM, SPM Analysis</p> <ul style="list-style-type: none"> - Characterization of organic/inorganic materials & devices using in-situ surface analysis techniques <hr/> <p><input type="checkbox"/> Development of Advanced Analysis Techniques using X-ray/ Neutron Scattering (EXAFS, XANES, SAXS)</p> <ul style="list-style-type: none"> - In-situ analysis of catalysts & energy materials, Characterization of organic thin film <hr/> <p><input type="checkbox"/> Study on The Structure and Impurity Analysis of Organic Materials/Thin Films</p> <ul style="list-style-type: none"> - Characterization of molecular structure and reaction dynamics study of materials/thin films for organic electronics - Quantitative analysis of trace level of impurities <hr/> <p><input type="checkbox"/> Development of The Analytical Tools for Electric/Magnetic Field Distribution and Structure</p> <ul style="list-style-type: none"> - Electric/magnetic field distribution and structural imaging in a local area - Super resolution optical/spectral imaging for soft materials